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Attorney for Petitioner

IN THE UNITED STATES DISTRICT COURT
 FOR THE DISTRICT OF OREGON
 DIVISION OF PORTLAND

LISA MARIE ROBERTS,

Petitioner,

v.

MARK NOOTH,

Respondent.

Civ. No. 08-1433-HU

AFFIDAVIT OF JEFF FISCHBACH

STATE OF ILLINOIS)
) ss.
 County of Cook)

I, Jeff Fischbach, being first duly sworn, depose and say:

1. I am a forensic technologist who has been retained by defense counsel to serve as an expert consultant in the instant case.
2. I have worked as an expert in electronic communications for approximately fifteen years and have consulted on, and testified in, dozens of cases involving cell phone tower

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technology and its forensic applications. I am a member of the American College of Forensic Examiners. Since 1994, I have worked as a technology adviser to professional organizations and corporations and offered expert advice and oversight on matters involving computers, information systems, satellite, and communications technologies.

3. I have testified in municipal, Federal, and military courts and offer my services to both Government and Defense. I currently retain active National Security Clearance, issued by the U.S. Department of Justice.
4. In reviewing the Lisa Roberts matter, I was asked to review the Search Warrant Affidavit and cell phone tower map submitted by Portland Police investigators on or about August 15, 2002. I have read the May 27, 2007, affidavit of William Brennan concerning his understanding of the cell phone tower evidence, and which is marked as Resp. Ex. 111. I have also examined the cell phone discovery and related investigation materials from the files of defense attorneys Patrick Sweeney and William Brennan. Finally, I have been provided with the attached physical details of the cell tower at 2100 Kotobuki Way.
5. The Kotobuki Way cell tower was alleged to have received a signal from a phone belonging to Lisa Roberts on the morning of May 25, 2002. The prosecution's theory was that this call originated from the vicinity of Kelley Point Park. I was retained by the Federal Public Defender to review all the available forensic information and conclusions to evaluate the reliability of the prosecution's theory.
6. The discovery did not include any forensic reports prepared by a qualified forensic expert, telecommunications engineer or other person knowledgeable in the area of cell tower technology and its forensic applications. From the affidavits and discovery, it appears that

neither the attorney for the state or the defense ever requested or reviewed coverage maps as part of the cell tower analysis. There were no "blocking records" produced, which is a term for records that show whether a call directed to a tower with a heavy call load was relayed to another tower.

7. The search warrant affidavit, at page 8, contains information from the Subpoena Compliance Officer at Verizon Wireless. When asked about the range of the cell tower to an originating call, he explained that the range may vary based on a variety of factors including weather, call load, location of the cell site, and other factors. He estimated the range at between 2 to 10 miles. The tower configuration, including height, may vary the coverage range by as much as a factor of 10. The Verizon estimation provides a range that may vary by a three-fold margin of error.
8. Kelley Point Park is approximately 3.4 miles southwest of the 2100 Kotobuki Way cell tower. The Kotobuki Way tower was erected in 1984 and is approximately 55 feet tall. This height suggests an engineered-intent to cover a significant area, or "footprint".
9. The height of a tower generally affects the size of the area it covers. Similar to a light that shines on the ground, the higher the light, the larger the illuminated area. Cell towers that are closer to the ground generally service a smaller area and can often identify calls originating from a smaller area. Towers like the Kotobuki Way area generally cover an area that makes identifying a discrete location where a particular call originated much more difficult.

10. The 10:27 a.m. call from the cell phone linked to Lisa Roberts could have been made from anywhere within the range of the Kotobuki Way cell phone tower, which could have had a range of at least 10 miles on a day with clear weather. A call could have reached the cell tower from beyond this range, especially if call load caused a call to relay from another tower.
11. To identify where a call may have originated, it is necessary to examine the network of cell towers systematically, rather than only looking at the signal a particular tower received. A cell tower network is complicated and interconnected. The investigation did not include a review of other towers that could have detected the 10:27 a.m. call. There is no record or coverage map that shows that Kelley Point Park is in the cell tower range of Kotobuki Way. A dense metropolitan area such as Portland has numerous cell phone towers. There is no record showing that calls from Kelley Point Park would normally reach the Kotobuki Way tower or that it is the closest tower with the strongest signal range. Even if the Kotobuki Way tower is the closest tower to the park, this is not reliable proof that a call originated from that discreet area.
12. The Brennan affidavit states that it was "provable" that the Roberts call could be "pinpointed as to the direction it came from when the cell tower received the signal." The word "pinpointed" should not be used when referring to forensic cell tower mapping. Cell tower range areas are a very rough instrument for identifying the originating point of a phone call. It is impossible to "pinpoint" using this technology. Whereas cell phone technology is generally a very good way to identify whether a phone call originated from a large geographic area (identifying a suspect as being in Portland when he said he was at the

Coast), it is a less accurate method when used to locate a person in a metropolitan area. Pinpointing a call as originating from a particular park within a portion of a city is virtually impossible, especially given the number of variables presented in this case including tower height and lack of certain crucial records.

13. The attorney's use of the phrase "pinpoint" reveals a deep misunderstanding of what cell phone tower information can prove, even when all the necessary data is considered. If this was the phrase the prosecutor used in explaining the strength of its case, he too is mistaken.
14. The Brennan affidavit also shows the attorney believed the parties could identify the "direction [the call] came from when the cell tower received the signal." In order to prove which direction a call came from, information about the tower antennae default settings is necessary. A call originating from one side of a tower can be detected on the opposite side depending on the design and engineering of the tower's antennae, or "sectors". Although there is a default setting for given sectors, each cell tower may utilize unique settings which may radically vary from the default alignment, especially when manmade or geographic features might impede a tower's signal. Here, the affidavit does not identify which direction the call was supposed to have originated from or any technical foundation for that conclusion. A conclusion based on a default alignment is not a reliable indicator of call location.
15. Based on my expertise and review of the evidence in this case, the cell tower information did not pinpoint whether a call originated from Kelley Point Park or reliably identify the direction from which a particular call was made. Unlike some forensic evidence that may closely link an individual to a precise location or crime, the cell tower information in this

case, at best, only provided a rough theory. Especially the absence of more complete data, the forensic conclusions drawn by the police and the defense are not well-supported and of doubtful accuracy.

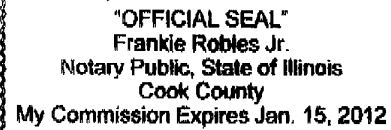
DATED this 4th day of September, 2010.

J-L-
Jeff Fischbach

SUBSCRIBED AND SWORN to before me this 4th day of September, 2010

[Signature]
Notary Public for Illinois

My Commission Expires: 1/15/2012



Tower Locate

YOUR SOURCE FOR TOWER DATA

Tower Site 107374

Vancouver, WA

Details for Unique System Identifier 107374

FCC Registration Number 1000746

Tower Information

Structure Type: POLE
Address: 2001 KOTO BUKI WAY
City: Vancouver
State: Washington (WA)
Construction Date: 11/01/1984
File Number: A0529592
Base Structure Height: 46 meters (150.9 feet)
Overall Height Above Ground: 48.8 meters (160.1 feet)
Ground Elevation: 8.8 meters (8.8 feet)
Overall Height Above Sea Level: 57.6 meters (189 feet)

Owner/Registrant Information

Licensee ID: L00270093
Owner Name:
Verizon Wireless (VAW) LLC
Email Address: Network.Regulatory@VerizonWireless.com
FRN: 0003800307
Telephone Number: (770) 797-1070
Address: Regulatory
1120 Sanctuary Pkwy, #150 GASA5REG
Alpharetta, GA 30004

Regulatory Information

Signature Name: Jerri Janjua
Signature Title: Manager, Regulatory Program Compliance
FAA Study Number: 2002-ANM-940-OE
FAA Circular Number: 70/7460-1K
Painting and Lighting: 4, 8, 12

AmericanTower Information

Site Name: VANCOUVER
Tower Type: Monopole
ATC Number: 82807
Address: 2001 Kotobuki Way
City: Vancouver
Area: West

Tower Location

Latitude / Longitude (DMS): 45 38 11 N / 122 41 30 W
Latitude / Longitude (Decimal): 45.63638889, -122.69166667
Map: